

RADIO LINKS ALASKA TO THE UNITED STATES

British Columbia No Barrier to the Passage of Ether Waves Between Naval Radio Station on Our Pacific Coast and Those Situated Within Our Empire of the Far North.

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Radio has played a most important part in the contemporary life of Alaska. It is destined to be one of the principal factors in the development of that vast territory. It is the one medium available for bridging the vast uninhabited spaces of that region for communication purposes and making them suitable for colonization and development. It has already performed invaluable services to the people of Alaska through the Army and Navy's radio stations, providing, during the past fifteen years, a means of rapid communication between distant points in the interior and between the interior and the coast. It supplements the Army's cable as a connecting link with the United States. The Army's cable may be visualized as a single thread of copper stretching from Port Valdez, near Cordova, to Sitka, Alaska, and thence to Seattle, a distance of 1,000 miles. This copper thread has deteriorated with age and consequently is frequently broken. It is a thread on the rocky bottoms of the Gulf of Alaska and the Pacific ocean. When a break occurs, several days' time may be required for the cable ship to locate the fault and make repairs.

Meanwhile the naval radio stations at Cordova, Ketchikan and Sitka take over the cable traffic in addition to their normal traffic and pass it on by radio to corresponding naval radio stations at Puget Sound, Wash., and Astoria, Ore.

The radio stations are not obliged to rely on a copper thread or other physical connecting medium, but only on the invisible and indestructible ether. The radio service is interfered with to a certain extent at times by atmospheric or static disturbances, but this form of interference is relatively infrequent and much less serious than the interference with the handling of traffic. The Army's cable and the Navy's radio stations comprise the exchange of rapid communications between Alaska and the United States. Which of these rich territories would be completely isolated.

Until the recent construction of the government railroad, the Army's land telegraph line from Port Valdez to Fairbanks in the heart of Alaska and the Army's station radio stations situated at strategic points within the interior comprised the only available means for the exchange of messages within the interior and with the coast. The Navy maintains nine radio stations in Alaska, all situated along the coast, to serve the Navy and vessels of the merchant marine in Alaskan waters as well as to maintain contact with the Pacific coast of the United States. These stations also exchange traffic with the Army's stations at Port Valdez and in the interior during cable breaks.

They also serve as relay stations for the outlet of traffic from approximately fifty low-power stations maintained by various large mining and packing concerns in Alaska. The Navy's radio stations are located on the islands of St. Paul and St. George in the Bering sea and at Dutch Harbor, Kodiak, Seward, Cordova, Juneau, Ketchikan and Sitka on the Gulf of Alaska.

They are strategically located to cover the requirements of naval vessels, all Alaskan waters and for special government purposes. The Alaskan Engineering Commission maintains a radio station at Anchorage. The bureau of education maintains three stations, one each at Atka, Akiaak and Katsuebe. These stations with the Army's communication facilities, the fifty stations of the mining and packing companies and the Navy's nine coastal stations constitute the facilities available to the people of Alaska for the exchange of communications with the interior and with the outside world.

Reliance is placed on radio almost entirely for the exchange of communications throughout Alaska. Vast areas in the interior are, however, without radio facilities and means whatever for the exchange of rapid communications. These areas are generally sparsely settled and resources and require only suitable communication and transportation facilities to attract settlers and their development. With the provision of suitable communication facilities it seems reasonably certain that the transportation facilities will follow regardless of the difficulties encountered.

Radio is peculiarly adaptable to Alaska as a medium for the exchange of communications, whereas the land line telegraph and telephone systems are not. The severe climatic conditions together with the rugged topography of the country probably will always preclude the establishment of the vast network of land wires required for present-day communications. The establishment of the land line systems probably would not prove to be insurmountable, but it is doubtful if they could be maintained in commission during the winter months.

On the other hand, the propagation of ether waves in space has proved to be most effective in Alaska. Atmospheric or static disturbances are not nearly as troublesome there as elsewhere. The only drawback to the general application of radio telephony for the exchange of conversations through space in Alaska is the problem of interference between stations themselves.

In the present stage of development of the radio art, less than 300 separate wave lengths or "other routes through space" can now be used simultaneously in the same general region without seriously interfering with one another. This would limit the number of two-way conversational circuits to a maximum of 1,500, whereas not less than several hundred thousands would eventually be required, similar to the land line telephone circuits in the United States.

If further developments take place which will enable the unrestricted application of radio telephony for the exchange of conversations through space, radio will indeed have a very wide field of application in Alaska.

It does not seem probable at this time that such developments will be brought about, but it should be remembered that even the art of radio telephony is only in its infancy and radio telephony has hardly been born. Improvements in the art of radio telephony and in operating methods will permit of a more general use of this medium of communication. It seems bound to come, even if developments do not take place which will permit of its unrestricted use for

HERE'S HOW RADIO OPERATORS CATCH 'EM IN ALASKA.



Naval radio operators in Alaska shoot salmon in the streams, instead of fishing with hook and line. This represents a morning's sport.

New Apparatus and Devices

By Ralph Brown, Radio Engineer

AN ELECTROLYTIC CONDENSER.

When alternating current supply is used for vacuum tube transmitters a filter circuit becomes necessary to reduce or, if possible, eliminate the disagreeable hum of the pulsating direct current. Paper condensers can be used for the purpose of smoothing out voltage pulsations. Mica dielectric is paper, but an electrolytic condenser seems to be even better suited because it cannot be permanently punctured. Abnormal voltages can be applied without fear of breakdown, within limits higher than ordinarily allowable.

The electrolytic condenser illustrated has a capacity of thirty-eight microfarads and measures but four and one-half inches by three and



one-fourth inches. Oscillographs, taken with the use of such a condenser with an efficient tube rectifier, show that it can be admirably used in conjunction with suitable choke coils to smooth out the ripples and allow voice projection quite free from distortion.

The condenser has an aluminum and a lead plate immersed in an alkaline electrolyte. The whole is contained in a very neat looking unit. Binding posts have the polarity plainly marked on them so that no mistake can be made in making connections in a direct current circuit. The condenser cannot be used in an alternating current circuit. Various capacities may, or

course, be secured by connecting a number of units in series, parallel or series-parallel. A wooden rack may be secured for mounting the battery of condensers in this manner. If the direct current voltage is excessively high, two or more condensers may be connected in series.

SHOT IN RUM RAID.

ALBANY, Ga., August 12.—In a prohibition raid about midnight last night at his place in Dougherty county, about twelve miles from Albany, G. I. Wilson, was probably fatally injured when he was shot in the stomach by Deputy Sheriff Aaron Denson.

Hot Summer Sun Trying On the Complexion

How to Protect Your Skin and Bring Roses to Your Cheeks

A Free Oatmeal Prescription Does Its Work Overnight. You Can Prepare It at Home.

NEW YORK.—Exposure to sun, dust and wind has a very bad effect upon the skin and complexion. There is a way to overcome this. "It is my own discovery and it takes just one night to get such marvelous results," says Mae Edna Wilder when her friends ask her about her wonderful complexion and the improved appearance of her hands and arms.

"You can do the same thing if you follow my advice," she says. "I feel it my duty to tell every girl and woman what this wonderful prescription did for me."

"Just think of it—all this change in a single night! I never tire of telling others just what brought about such remarkable results. Here is the identical prescription that removed every defect from my face, neck, hands and arms. Until you try it you can form no idea of the marvelous change it will make in just one application. The prescription, which you can prepare at your own home, is as follows:

"Go to any grocery store and get 10 cents' worth of ordinary oatmeal, and from any toilet counter a bottle of dermillo. Follow the directions for using oatmeal as given in every package of dermillo. If it is more convenient you can use Dermillo-Oatmeal Soap instead of oatmeal."

"The first application of dermillo will astonish you. It makes the skin appear transparent, smooth and velvety, giving any one a youthful appearance."

"I especially recommend this method for the removal of skin shine, nose, tan, coarse pores, rough skin, ruddiness, wrinkles, and, in fact, every blemish of the face, hands and arms are helped to."

"If your neck or chest is discolored from exposure apply this combination

tion and the objectionable defect will disappear as if by magic. It is absolutely harmless and will not produce or stimulate a growth of hair."

No matter how rough and ungainly the hands and arms or what abuses they have had through hard work and exposure to sun and wind, this oatmeal-dermillo combination will work a wonderful transformation."

Over a million girls and women are now using it in preference to face powder and other beautifiers. This is what two well known actresses say about it:

Dorothy Dalton, the beautiful actress, says: "The first application of this wonderful dermillo-oatmeal combination will astonish you. It imparts instant beauty to the skin and makes a rosy-white complexion every one will talk about. It protects my skin in all kinds of weather. That's why I prefer it to all other preparations and am never without it."

Viola Dana, the well known star, writes: "I am often asked how I keep my complexion so fresh looking. It's a simple process for any one to have a smooth, velvety, rosy white, girlish complexion if she will use Liska cold cream to cleanse the skin and that well known toilet preparation, dermillo, to beautify it. I recommend these preparations to all my personal friends, and they are just as enthusiastic over them as I am."

Note: To get the best effect be sure to follow the complete directions contained in every package of dermillo. Drugists and department stores guarantee that there will be a noticeable improvement after the first application or they will refund the money. It is sold in this city under a money-refund guarantee by the Peoples Drug Store and all other department stores and all drug-gists.

BY RADIO TODAY

Complete Programs of Radio Broadcasting Stations.

NAA—Naval Radio Station, Radio, Va.
10:30 a.m.—Meteorological report on 5,950 meters by arc transmitter.
12 noon—Time signal, ship orders and weather report.
10 p.m.—Ship orders, weather report and time signal.
10:30 p.m.—Naval press news (2,650 meters).

WDM—Church of the Covenant, Connecticut Avenue and N Street (360 Meters).
11 a.m.—Sermon by Rev. Howard D. Talbott, assistant pastor.
8 p.m.—Evening services with sermon by Dr. Talbott and music.

KDKA—Westinghouse, East Pitts-

burgh (300 Meters—Eastern Standard Time).
10 a.m.—Services of the Point Breeze Presbyterian Church, Rev. P. H. Barker, pastor.
1:45 p.m.—Children's Bible story, "Gumming Blocks."

2 p.m.—Radio chapel services conducted by Rev. Johnston Calhoun, pastor of the Second United Presbyterian Church of Pittsburgh.
6:30 p.m.—Open-air services from the Wilkinsburg Conference of Churches, with Rev. Titus Love, member of the board of foreign missions of the Methodist-Episcopal Church of New York city, in the pulpit.

WJZ—Westinghouse, Newark, N. J. (360 Meters—Eastern Daylight-Saving Time—Deduct One Hour).
3 p.m.—Radio chapel services by Rev. John A. Carlisle of the Forest Hill Presbyterian Church of Newark, N. J.
8:30 p.m.—Readings and records from "The Bubble Books That Sing," by Ralph Mayhew.

7 p.m.—A special story for Boy Scouts from "Tad Sheldon, Boy Scout," by John Fleming Wilson.
7:30 p.m.—"Is Honolulu Up to Date?" by Edith McDowell.
8:15 p.m.—Concert by the Fairfield Quartet.

KYW—Westinghouse, Chicago (360 Meters—Central Daylight-Saving Time—Same as Eastern Standard Time).
3:30 p.m.—Radio chapel services conducted by Rev. Joseph C. Rogers of Chicago. The subject of the sermon will be "Shall We Abolish God, or Bolshevism Unmasked?"

WBZ—Westinghouse, Springfield, Mass. (360 Meters—Eastern Daylight-Saving Time—Deduct One Hour).
3 p.m.—Radio chapel services.
8 p.m.—Church services.

WWJ—The Detroit News (360 Meters—Eastern Standard Time).
2 p.m.—Concert by Detroit News Orchestra.

3 p.m.—Concert broadcasted from Belle Island by Herman W. Schme-n's Concert Band.
7:30 p.m.—Services of St. Paul's Cathedral.

WGL—American Radio and Research Corporation, Medford Hills, Mass. (360 Meters—Eastern Daylight-Saving Time—Deduct One Hour).
7:45 p.m.—Police reports.
8 p.m.—Radio church service, "The Way of Life," by Rev. George T. Bentley, chaplain, Diocesan Hospital of Boston; sacred concert by Miss Mildred Johnson, soprano, accompanied by Miss May Forslund. The sacred concert program follows: "Morning" (Stevens), "The Star" (Rogers), selection from "Carmen," "Micaela's Air" (Bizet), "Thank God for a Garden" (Del Riego) and "Life" (Curran).

WNB—Atlanta Journal, Atlanta, Ga. (360 Meters—Central Standard Time—Deduct One Hour).
11 a.m.—Services of the First Presbyterian Church.
5 p.m.—Radio chapel services with sermon and sacred concert.

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"It comes closest to the dream I had when I first caught the vision of radio's vast possibilities. It brings the world of music, news and education into the home, fresh from the human voice. It solves the problem of loneliness and isolation."

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the home—a product of the research systematically conducted by scientists in the laboratories that constitute part of the R C A organization."

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The Importance of the Symbol R C A

RADIO has taken such hold of the public that it quite naturally has attracted the attention of a host of inventors and manufacturers.

Crude radio apparatus of a kind can be made even by embryonic organizations. But the vitally important inventions that have made radio the possession of every man, woman and child are those developed as the result of costly research conducted in the engineering laboratories of the Radio Corporation of America.

The name-plate of a Radio Set is all-important in the purchase of radio apparatus. If it bears the letters "RCA" the public and the dealer are assured that at the time of its introduction it is the highest expression of the advancing art of radio.

No other organization has manufacturing facilities equal to those of the Radio Corporation of America, and capable of meeting the demands of the public and the dealer.

Any R C A dealer will be pleased to show you the Aeriola Grand and to let you judge its wonderful tone quality for yourself.

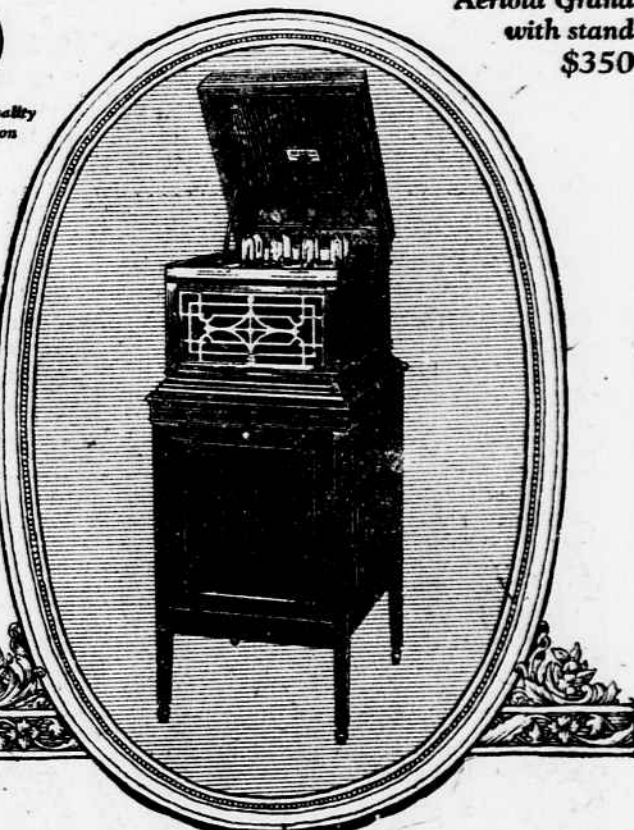
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